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(71) Applicant (for all designated States except US): **TRIGEN LIMITED** [GB/GB]; 20 St James's Street, London SW1A 1ES (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **WANG, Shouming** [GB/GB]; Trigen Limited, Clareville House, 26/27 Oxendon Street, London SW1Y 4EL (GB).

(74) Agent: **HARRISON GODDARD FOOTE**; Belgrave Hall, Belgrave Street, Leeds LS2 8DD (GB).

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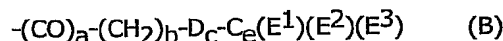
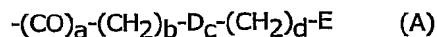
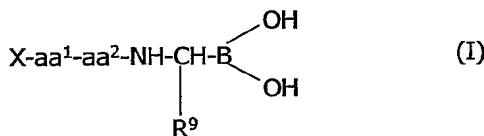
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(54) Title: BORONIC ACID THROMBIN INHIBITORS



(57) Abstract: A thrombin inhibitor selected from boronic acids of formula (I), and salts, prodrugs and prodrug salts thereof: wherein X is H (to form NH₂) or an amino-protecting group; aal is an amino acid residue having a side chain selected from formula (A) and (B) $\text{-(CO)}_a\text{-(CH}_2\text{)}_b\text{-D}_c\text{-(CH}_2\text{)}_d\text{-E}$ (A), $\text{-(CO)}_a\text{-(CH}_2\text{)}_b\text{-D}_c\text{-C}_e\text{(E}^1\text{)(E}^2\text{)(E}^3\text{)}$ wherein E¹, E² and E³ are 5-6 membered saturated or unsaturated hydrocarbyl rings, or one of E¹, E² and E³ is hydrogen and the other two are a said hydrocarbyl ring, E, E¹, E² and E³ optionally being halogenated when saturated and mandatorily being halogenated when unsaturated, a particular halogen being fluorine; aa² is a residue of an amino acid which binds to the thrombin S2 subsite; and R⁹ is a straight chain alkyl group interrupted by one or more ether linkages or R⁹ is $\text{-(CH}_2\text{)}_m$ W and W is -OH or halogen.



WO 2005/084687 A3